The thesis presented here incorporates the results obtained from the microfloral investigations on the Upper Tertiary Sediments of India, specially in the Himalayan Foot hills. The thesis is divided into two parts:

Part I deals with the microfloral studies on the Siwaliks of North Western and Central Himalayas. The investigations have been carried out on six different traverses of Punjab, Himachal Pradesh and Uttar Pradesh.

The detailed systematic description of the dispersed spores and pollen grains has been made with special reference to their morphography. The spore-pollen assemblage has been assigned under 102 species belonging to 64 genera out of which one genera and 27 species are described as new. The assemblage also contains a number of species that are recorded for the first time from the Indian Tertiary deposits. The natural affinities of the palynomorphs and their distribution throughout the Tertiary deposits of India has been mentioned.

The microfloral composition of the Lower, Middle and Upper Siwalik Sediments has been demarcated. The qualitative and quantitative distribution of the various spore-pollen genera in the Lower, Middle and Upper Siwalik sediments along the vertical and horizontal axis
of the traverses has been enumerated. On the basis of the quantitative distribution of the spore-pollen genera, the 6 traverses of 3 different localities have been correlated. A microfloral change has been observed in the vertical axis of the traverses. An intimate relationship has been observed in the distribution pattern of the major groups of spore-pollen genera in the 6 traverses.

The microfloral assemblage of the Siwaliks has been compared with those of the other Tertiary deposits of India and on the basis of the comparison, the microfloral characteristics of the Siwaliks have been discussed. The microfloral composition of the present study also has been compared with those of the other Siwalik deposits of India which indicates the presence of a closer relationship in the distribution pattern of the floral elements.

The distribution pattern of the microfloral components and the change in the microflora in the Lower, Middle and Upper Siwalik Sediments suggests the possibility of recognizing four bio-stratigraphical zones in the Siwaliks.

On the basis of the distribution pattern of the palynomorphs and compared to the present day distribution of the related families, the palaeoenvironmental analysis of the sediments during their deposition has been attempted.
Part II deals with the microfloral assemblages of the Upper Tertiary Sediments of Upper Assam. Investigations have been carried out on the Girujan Clay Stage, Namsang and Dhekiajuli Bed of Moran and Nahorkatiya Wells of Assam. The microflora has been attributed to 50 genera and 68 species out of which one genera and 9 species are recorded as new. The detailed description of the spore-pollen types has been made with their distribution throughout the Tertiary deposits of India. The natural affinities of the palynomorphs has been shown.

The microfloral composition of the Girujan Clay Stage, Namsang and Dhekiajuli Bed has been demarcated. The qualitative and quantitative distribution of the various spore-pollen genera along the vertical and horizontal axis of the wells has been enumerated. On the basis of the distribution patterns of the major floral elements the two wells have been correlated. The assemblage has been compared with those of the contemporaneous deposits of India on the basis of which the present assemblage has been characterized. On the basis of the quantitative and qualitative distribution pattern of the palynomorphs the floral changes have been observed. An attempt has been made to analyse the palaeoenvironmental condition during the deposition of the sediments on the basis of
the distribution pattern of the palynomorphs as compared to the present day distribution of the related families.

Lastly, an attempt has been made to compare or correlate the microfloristic type of the Siwaliks and Upper Tertiary Sediments of Upper Assam on the basis of which the palaeoenvironmental condition during the deposition of the sediments has been discussed.